

Dossier/Oral Exam Primer

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1) The faculty committee

The oral exam committee consists of your advisor(s) and four other faculty members. At least two of these others must be within the department and one must be outside the department.

One of the faculty from the department is the "random." You choose this committee member by going to Julie Prince and drawing a professor's names from a hat. Although many students have fears about drawing unfamiliar or intimidating faculty members, the main thing to focus on is the level at which you write the background for your dossier. While you would expect all of the explicitly chosen faculty to have a general understanding of your research plan, it's possible that your random member's area of research is completely different. Therefore, a more basic explanation of the terms and concepts in your background material may be needed.

Three of the department faculty members will read and evaluate the dossier. One of these is your advisor(s) and one is the random. All of the readers should be asked in advance if they are willing to evaluate your dossier.

It is also a good idea to inquire if the faculty members will be in town during the period when you plan to take your oral exam.

This part of the process should be completed in mid to late January.

2) Writing your dossier

The dossier is a research proposal and a written exam. You should write it to clearly explain what you plan to do for your Ph.D. project, and why it is relevant. Most people include a background section, a materials and methods section and a future work section. Presenting research results is a bonus, but it is not necessary to have a lot of research already done. Naturally, the style of the dossier will vary from group to group, so be sure to examine a few dossiers written by senior students in your group. If there are no others in your group to lend guidance, talk to one of the senior students in the department. Almost anyone will be willing to offer suggestions.

In an ideal world, the length of the dossier would not be as important as how well written it is. However, the lengths of dossiers vary widely, and professors, being human, will notice the thickness of the bundle of paper you give them. A reasonable length might be 70-100 pages, with a 10-12 point font and one and a half line spacing. This size conveys a sense of weight, without being too long to read. If you need to go over this limit, consider adding less critical material as appendices. If you have not yet reached this length, consider adding more detail or additional topics.

Most people start writing a dossier during mid to late January to allow plenty of time before the April due date. (This date seems to creep earlier every year.) Note that this includes a lot of time for research at the library, complete changes, additions or cuts of entire sections and possibly one or more wild goose chase. It's part of the learning process.

The dossier may go through many revisions and it's a good idea to ask advisors, senior students and classmates for help in editing, especially if the English language is new to you. It is a very good idea to keep multiple backup copies of your dossier on hand, in case of computer failure.

When you have received your final set of revisions from your advisor and double checked your spelling, grammar, figures and references, print out one copy of the dossier for every person on your committee. Take these copies to a copy shop, such as a Kinko's or Alpha Print and have them bound into an inexpensive plastic binder. This process will cost about \$10 per copy (more if you have them do the copies for you) and may take several hours. This part of the process alone is sufficient reason to try and finish writing a few days early, so that you can beat the rush to the local shops. Make sure that each copy has all of the pages and all of the figures.

When you're done, take the copies for CEMS professors to Julie Prince and deliver the others to the remaining professors on your committee.

Once each of the three readers has given their approval, and you have made any necessary corrections, you can proceed to the oral exam.

3) Scheduling your oral exam

Some people would say that this is the most difficult part of the prelim exam; getting five or more professors into one room at one time. If one professor is particularly difficult to schedule because of travel or sabbatical, make it very clear to the other professors that you have a severe schedule limitation because of this. They may be more flexible if it's clear that you're already having trouble.

Even in the best of cases, it's not unusual for a month-long period of possibilities to suddenly narrow down to a particular time on a particular day. Don't worry about trying to schedule your orals at a strategic time to affect the outcome of the exam. Chances are that you won't have that much control over it.

The oral exam should be scheduled with the graduate school well in advance. According to grad school rules, the committee must have two weeks to read your dossier before your oral exam. Most people want at least a month to prepare anyhow, so the peak of oral exam taking tends to occur in mid-May.

Schedule a room as soon as you have the time slot approved by all of your committee members. To reserve a conference room in Amundson, talk to anyone in the main office for rooms 126, 210 and 182 or to Julie Murphy for room 385. If these rooms are all occupied, you can reserve a classroom or conference room by calling the University Room Scheduling office at extension 5-6030.

4) Preparing for your talk

The oral exam is a closed exam, with you and the committee only. It consists of a talk and a question and answer session.

The oral exam talk should last about 30-40 minutes and cover a reasonable arc of material from your dossier. You will be interrupted numerous times for questions and clarifications, so in the actual exam, it will take much longer. Again, styles of presentation will vary from group to group, so these are only general guidelines.

You should plan on having a set amount of time per slide. With the exception of the title slide, each slide should take between a minute and a minute and a half to cover. If the slide is too short, consolidate it with another slide. If it takes longer, consider breaking the slide into two parts or omitting some of that material.

You may end up making slides for your talk several times, but don't discard all of the old slides. Bring them into the room with you for use as backups. Chances are that someone will ask you a question about something you decided to cut out of your main talk, and these backups can be invaluable tools for answering those questions.

Computer projectors are really cool. But they can malfunction. If you plan to use an LCD projector for your oral exam, have a spare copy of all of your slides on transparency.

Important things to practice when rehearsing your talk: Don't forget to face the audience and speak clearly during your talk. Don't say 'umm' and don't flash your laser pointer all over the screen. Don't stand in front of the screen or block anyone's view.

This preparation can take a few weeks, and most people give two or three mock oral exams complete with a barrage difficult questions, from either classmates or groupmates pretending to be exam committee members. (See the next section...) If at all possible, make sure your advisor sees at least one practice talk.

5) Preparing for the question and answer session

After the professors have asked you for all the clarifications they want on your presentation, they will begin to ask other questions, which can be extensions of your research proposal or completely unrelated material. (And I do mean completely...)

Most people spend a solid month studying for this question and answer session. An important thing to remember is that your IQ drops by about 50% when you are standing in front of a chalkboard and five professors. Be prepared to start answering difficult questions from the basic derivations, using facts that you know you will not forget or get confused about under pressure.

Also remember that the professors (at least some of them) want you to pass. They may give you hints, which you should carefully consider. If you need a clarification on the question, don't be afraid to ask, or suggest a reasonable assumption and see how it flies.

There are many ways to prepare, in addition to studying your old textbooks and notes. You and your classmates may wish to challenge each other to answer difficult questions in front of a board, as a confidence building exercise. Some people focus on making the talk run smoothly,

so that the professors will be impressed early on, making them less adversarial later. Other students prepare lectures for each other, acting as reviewers for each of the important subjects in their field. Talk to various students about their preparation to get more ideas.

Most of us flub a few questions in our orals. If you really mess one up, it's more important to gather your wits for the next question.

6) Before the big day

If you are using an overhead projector, it's good to make sure that both bulbs are working and that the glass surfaces are clean.

Have chalk or markers and erasers ready for the question and answer session. A diagram or equations can be very helpful in answering a long question, or stalling for time.

Have a pointer. If you are using a laser pointer, you may want to have spare batteries.

See to the committee's comfort. (A happy committee is a good thing.) Provide food and drink. For early morning exams, the food you provide may very well be the professor's breakfast, so bring something along the lines of bagels, juice and coffee. For later morning or after lunch, they won't be too hungry, so bring a light snack, such as crackers, cookies or fruit, and coffee. For late in the afternoon, they may be hungry again, so bring a more substantial snack, and coffee. (Yes, there is a pattern here...) At any time of day, bring two pots of good, strong coffee, and possibly some non-caffeinated drinks for the rare, health-conscious exception.

Dress up. Have a nice suit ready to go. If you don't have one, this is a perfect excuse to buy something simple, which could also be used later for speaking at conferences or interviews. If you're enough of a clotheshorse to point out that the suit may be out of style by then, then don't worry about this statement. Comfortable shoes are a good idea, since you may be standing for a few hours.

Relax. A bit of motherly advice that never goes wrong: get some rest the night before and make sure you eat a good breakfast that day.

7) Outcomes

- Pass. This means you're done with the prelims and you're ready to go on for a Ph.D. Go throw a party. It's a department tradition.

- Pass with reservation. This means that the committee wants you to do a few things (e.g. write a few papers, take a class, TA for a class) as a condition for passing. You have a few more minor hoops to jump through, but this is still a pass. Go throw a party. It's a department tradition.

- Recess. This is the downside of scheduling your orals such that one committee member has to leave early. That member may decide that he still wants you see you answer more questions, so the entire oral exam is paused, to be re-convened at a later date. This is one reason why it's bad

to plan the party in advance... The second session may consist of questions only, or the committee may ask that you re-deliver your talk. Sometimes orals are recessed because the student is clearly too distressed to function in the exam, and this provides you with a chance to calm down, do some more preparation, and try again without any marks on the your record.

- Fail. This doesn't happen too often, and it's not necessarily the end. Usually, if a student fails his oral exam, he is offered the chance to re-take the exam in three months time. This second chance is apparently not a Grad School rule, but it is a strong department tradition. If you pass the second time, for all intents and purposes, it's as good as a pass on the first time, just a lot more stressful. In the unlikely event that a student fails the second time (I have never seen this happen), he basically converts his dossier into a master thesis, goes for an M.S. and leaves the department for a job which pays three times as much as his grad student stipend with far better benefits. That's the nice thing about being at this level of education. The consequences of failure are not too bad in the grand scheme of things.

8) A final word

Simply being in this department says that you are as well prepared for this as just about any person on the planet. While the dossier and orals are scary, you can manage it, if you prepare properly. Good luck and remember to take advantage of the department's resources such as the CEMS-CGS.